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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,421	06/26/2003	Klein A. Rodrigues	2048A.ALC	6300
35157	7590	09/02/2005	EXAMINER	
NATIONAL STARCH AND CHEMICAL COMPANY			ZEMEL, IRINA SOPJIA	
P.O. BOX 6500			ART UNIT	
BRIDGEWATER, NJ 08807-3300			PAPER NUMBER	

1711

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/606,421	Applicant(s) RODRIGUES, KLEIN A.	
	Examiner Irina S. Zemel	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) 12-15 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-11 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☒ Claim(s) 1-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/7/04; 6/26/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-11, drawn to a non-woven binder composition comprising a copolymer, classified in class 528, subclass various (depending on the second functional group).
- II. Claims 12-15, drawn to binder composition, classified in class 525, subclass 425+.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group I and Group II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as an adhesive and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. LeCroy on August 30, 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-11. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-15 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

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F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5 and 7-11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4-10 of copending Application No. 10/283406. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed composition of each application contain identical components in overlapping amounts..

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for Claims 1 -11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for copolymers

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containing amino or hydroxyl functional monomers based on amino and hydroxyl (alkyl)acrylates an other amino function containing vinylpolymers, does not reasonably provide enablement for copolymers containing amino and hydroxyl functional units base on any other monomers. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. While copolymers based on various acrylates are reasonably enabled by the specification, there are large number of polymers that contain hydroxyl and amino functionality that may not be suitable for the claimed non woven binders. For example, any polyamide inherently comprise an amine and an carboxylic terminal functionality and, as such, would be within the scope of the claimed invention. However, it would clearly require undue experimentation to determine which of copolymers containing the claimed carboxylic and hydroxyl/amino functionality are suitable for the intended use and are within the scope of the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,361,768 to Galleguillos et al (hereinafter "Galleguillos").

Galleguillos discloses polymeric compositions based on copolymer of anionic monomers having acid functional group, cationic monomers having amino functional group; and non-ionic monomers. Among anionic monomers, acrylic and methacrylic acids are explicitly listed in table 2 and exemplified in all illustrative examples. Among cationic monomers, dimethyl animo ethyl methactrylate (DMAEMA) and dimethylaminopropyl methacrylamide (DMAPMA) are explicitly listed in table 2 and exemplified in number of illustrative examples. Furthermore, monomers having tertiary aminogroup orresponding to the claimed betadine monomers are listed in column 5, formula B. Among non-ionic monomers, acrylates, methacrylates, acrylamides, etc., are explicitly listed in column 7, lines 48-61. The relative amount of cationic, anionic and non-ionic monomers in the composition are disclosed in column 2, lines 35-49, and the disclosed amounts fully anticipate the claimed amounts anr reltive ratios of the components. The reference further explicitly discloses suitability of the polymeric composition based on the disclosed copolymer for use in saturating non-woven fabrics to obtain synthetic leathers, thus implying the claimed non-woven mats (pieces of leather) comprising the claimed binder. The invention as claimed, therefore, is fully anticipated by the Galleguillos reference.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative under 35 USC 103(a) as obvious over US Patent 5,262,244 to Faust et al., (hereinafter "Faust").

Faust discloses copolymers containing an acid functional monomer (A) and amino functional monomer (B) and aqueous solutions thereof. The copolymer further may comprises non-functional monomers (C). (Meth)acrylic acid is expressly listed as the preferred acid functional monomer. See illustrative examples and disclosure in column 6 (monomer Type A). The relative amounts of the components (a), (B) and (C) and the ration of components A and B all correspond to the claimed ranges. See for, example, claims 10, 12-14. For molecular weight of the copolymer, which corresponds to the claimed weight, see, for example, claims 18 and 19. The composition is suitable as a binder. The invention as claimed, thus is fully anticipated by the disclosure of the Faust reference. It is reasonably believed that the disclosed polymer is inherently capable of binding fibrous materials since the disclosed copolymer is identical to the claimed polymer and since it is disclosed that the polymer is capable as being used as a binder. The burden is shifted to the applicants to provide the factual evidence to the contrary.

Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent 4,749,762 to Foss, (hereinafter "Foss").

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent 4,749,762 to Foss, (hereinafter "Foss").

Foss discloses copolymers of acrylic acid (a) and amino functional methacrylate (b) and, optionally, a non-functional (meth)acrylic ester. See, for example, abstract. The composition also include aqueous solutions of the copolymers after polymerization of the copolymer in aqueous media. The amounts and ratios of components (a), (b), and (c), and the ratios of (a) and (b) are disclosed in column 2, line 67 to column 2, line 5, which fully correspond to the claimed amounts. See also all illustrative examples. The degree of polymerization of the polymer disclosed in column 2, lines 60-62, is up to 300, at which the molecular weight of the polymer well exceeds the claimed lower limit. While the reference does not expressly addresses suitability of the taught polymer for binders for fibrous material, it is reasonably believed that the disclosed polymer is inherently capable of binding fibrous materials since the disclosed copolymer is identical to the claimed polymer and since it is disclosed that the polymer is capable as being used as a binder. The burden is shifted to the applicants to provide the factual evidence to the contrary.

As far as converting functional amino-groups to further modify the polymer to contain the claimed sulfobetane or carboxybetaine groups, the reference expressly

discloses such conversion with resulting functional groups fully corresponding to the claimed betaine groups. See column 3, lines 7-13.

Claim Rejections - 35 USC § 103

Claims 1-5 and 7-10 are rejected under 35 U.S.C. 103(a) as obvious over US Patent 6,335,404 to Kirk et al, (hereinafter "Kirk")

Kirk discloses copolymers with molecular weight of 30,000 containing up to 97 % of monoethylenically unsaturated monocarboxylic acid(such as acrylic acid disclosed in column 5) and up to 40 % of carboxy-free monomers, among which amino functional monomers and non-functional acrylates are expressly listed in column 6, lines 1-24 that may be used alone or in combination. . Therefore, use of acrylic acid in combination with a non-functional acrylate and aminofunctional comonomers in the claimed amounts would have been obvious from the disclosure of the reference with reasonable expectation of adequate results absent showing of unexpected results that can be attributed to the claimed limitations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irina S. Zemel
Examiner
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A handwritten signature in black ink, appearing to read 'Irina Zemel', written in a cursive style.

ISZ